

A-1. INTRODUCTION

This Appendix is intended to accompany the Wildlife Exposure Factors Handbook (hereafter referred to as the Handbook) and should be used only by individuals familiar with the Handbook. The species-specific values for the exposure factors presented in Chapter 2 of the Handbook are a subset of the data included in the tables of this Appendix. Most values identified in the literature reviewed for the Handbook are included in this Appendix. For some exposure factors for some species, large quantities of data are available. For these factors and species, we tried to select data that represented a range of values and geographic locations for the Appendix, and did not include the other reviewed data. All data obtained from secondary sources are so identified in the "Notes" column of the tables. Appropriate data identified in primary sources were included in the Appendix unless the results were inadequately reported (e.g., no methods, units of measure unclear). The references for this Appendix are in Chapter 2 of the Handbook.

We caution users of this Appendix that some values or studies included may be inaccurate. We have not attempted to evaluate the quality of the original studies and associated data. When potential difficulties were obvious (e.g., method of estimating home range not reported), we have tried to indicate the limitation in the "Notes" column. Also in the notes column, we have tried to identify potential confounding factors (e.g., low reproductive success due to DDT or other pollutant). Due to resource limitations, our quality-assurance program consisted of reviewing all data for consistency with other reported values, reviewing any unusual values against the original reference, and verifying values that were included in Chapter 2 of the Handbook. Many of the data presented in the Appendix required conversion to metric units (e.g., density reported as N/acre to density as N/hectare), and we have not verified that all such conversions were performed correctly for the Appendix. For several factor values, we computed a mean and standard deviation (SD) from original data provided in the reference (e.g., mean \pm SD of 10 density values representing 10 different years of study in the same location). Again, we have only verified a subset of these data as part of our quality assurance procedures. Users of this Handbook therefore are strongly encouraged to retrieve the original literature for any studies that are important to their exposure assessment. We

would welcome being informed of any possible inaccuracies in the Handbook and this Appendix at the following address:

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The remainder of Section A-2 describes the column headers and abbreviations used in the Appendix. The exposure factor tables are provided for birds in Section A-3, for mammals in Section A-4, and for reptiles and amphibians in Section A-5. Again, the references for the citations in the Appendix are in Chapter 2 of the Handbook at the end of each individual species profile.

A-2. TABLE FORMAT AND ABBREVIATION KEY

In this section, we describe the organization of the tables (Section A-2.1), their column headers (A-2.2), and abbreviations used in the tables (Section A-2.3).

A-2.1. ORGANIZATION OF TABLES

Quantitative data for each species in the Appendix are presented in tables arranged in four main groups in the following order:

- Normalizing and Contact Rate Factors;
- Dietary Composition;
- Population Dynamics; and
- Seasonal Activities.

The exposure factors included in each of these groups are explained in Chapter 1 of the Handbook. As in the Handbook, exposure factors included under each of these four groups vary slightly from species to species according to the species' biology and available data. For example, under "Population Dynamics," factors related to reproduction for birds might include "Age at Fledging," whereas for mammals they could include "Age at Weaning." If no data were found for a given factor, the factor is not listed. The meaning of the exposure factors included in the Appendix should be clear to users who have read Chapters 1, 3, and 4 of the Handbook and corresponding species profiles.

We explain the Appendix table column headers for the four groups of factors in Section A-2.2 and the abbreviations used under each column header in Section A-2.3. A few table entries do not conform to the format as described below. Any exceptions are explained in the "Notes" column for the individual entry.

A-2.2. COLUMN HEADERS

The column headers for each of the four main groups of exposure factors are described below according to the group(s) of exposure factors to which they apply.

ALL GROUPS

Reference:	Reference citation (see Chapter 2 of the Handbook for full references). If a particular subspecies was studied and identified, the subspecies name will be listed under the reference in parentheses.
Age:	Age of animals, if reported and relevant.
Sex:	Sex of animals, if reported and relevant.
N:	Sample size if reported (sometimes, a sample size is described in the notes instead).
Location:	State (United States assumed) or Canadian province (identified by CAN).
Habitat:	Short descriptors of habitat if reported and if relevant.
Notes:	Additional information needed to evaluate the data, when necessary.

NORMALIZING AND CONTACT RATE FACTORS

Cond:	Condition of animals (e.g., lactating, swimming, non-breeding), or line-specific number to be described in the notes column.
Seas:	Season in which data were collected, if reported and relevant.
Mean:	Mean value for population sampled.
SD/SE:	Standard deviation, if reported, or else standard error if reported.
Units:	Units for measurements.
Minimum:	Minimum value reported for the population sampled, or minimum average value if several populations or years evaluated.
Maximum:	Maximum value reported for the population sampled, or minimum average value if several populations or years evaluated.

DIETARY COMPOSITION

Food type:	Type of food, usually identified in as much detail as reported.		
Spring, Summer, Fall, Winter:	The data are reported by season whenever possible.		
	Spring:	March, April, May	
	Summer:	June, July, August	
	Fall:	September, October, November	
	Winter:	December, January, February	
Habitat - Measure:	Habitat type and description of measure used to indicate dietary composition.		

POPULATION DYNAMICS

Cond:	Condition of animals (e.g., lactating, swimming, non-breeding), or line-specific number to be described in the notes column.
Seas:	Season in which data were collected, if reported and relevant.
Mean:	Mean value for population sampled.
SD/SE:	Standard deviation, if reported, or else standard error if reported.
Units:	Units for measurements.
Minimum:	Minimum value reported for the population sampled, or minimum average value if several populations or years evaluated.
Maximum:	Maximum value reported for the population sampled, or minimum average value if several populations or years evaluated.

SEASONAL ACTIVITIES

Begin:	Month that the activity usually begins.
Peak:	Month(s) that the activity peaks (i.e., most of the population involved).
End:	Month that the activity usually ends.

A-2.3. ABBREVIATIONS

The abbreviations used in the Appendix for age, sex, condition, season, and units are defined below. They are arranged alphabetically unless otherwise noted. Any other abbreviations in the Appendix tables are explained in the "Notes" column.

AGE (LIFE STAGE) Listed in order of increasing age (not alphabetically):

All Species:

J	juveniles (i.e., independent, but not yet sexually mature)
A	adults (i.e., sexually mature)
B	both adults and juveniles
-	not specified or relevant

Birds:

E	egg
H	hatchling (i.e., on day of hatching)
C	chick (for precocial birds such as herring gulls and northern bobwhite)
N	nestling (for altricial birds such as osprey, kingfishers, robin)
F	fledgling (i.e., first day of sustained flight)

Mammals:

N	neonate (i.e., on day of birth)
P	pup (before weaning)
Y	yearling (i.e., one year of age)

Reptiles and Amphibians:

H	hatchling (for those species that lay eggs)
N	neonate (for water snakes)
T	tadpole (for frogs)
E	eft (for newts)

SEX

All Species:

B	both sexes
F	female
M	male

CONDITION (for non-metabolic records)

All Species:

BR	breeding (may be any stage of reproductive efforts, including courtship, mating, egg-laying or pregnancy, feeding young)
DI	diurnal (i.e., during the day)
NB	nonbreeding
NO	nocturnal (i.e., at night)
-	not specified or not relevant

Birds:

FY	feeding young
I	incubating
IC	in covey (for northern bobwhite only)
L	laying
LI	laying or incubating
MI	migrating
N	nesting

Mammals:

G	during gestation (i.e., during pregnancy)
L	lactating
NG	non-gestating (i.e., not pregnant)
NP	nulliparous (i.e., females that have never given birth)
P	parous (i.e., females that have given birth previously)

CONDITION (for non-metabolic records) (cont'd)

Reptiles and Amphibians:

HI	hibernating
L	laying eggs

CONDITION (for metabolic records)

All Species:

AC	light activity
AD	average daily metabolism
BA	basal metabolism
EX	existence metabolism
FL	free-living metabolism
R	resting
ST	standard metabolism
SW	swimming
-	not specified or not relevant
#	note number

UNITS

time:

d	day
wk	week
yr	year

energy:

cal	calorie
kcal	kilocalorie

mass:

g	gram
kg	kilogram

area:

ha	hectare
m ²	square meter

length:

mm	millimeter
cm	centimeter
m	meter
km	kilometer

volume:

ml	milliliter
l	liter

temperature:

°C	degrees Centigrade
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